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JOHN N. ANASTASI, REG.
LOWRIE, LANDO & ANASTASI, LLP
RIVERFRONT OFFICE PARK
ONE MAIN STREET
CAMBRIDGE, MA 02142

EXAMINER

SALDANO, LISA M

ART UNIT PAPER NUMBER

3673

DATE MAILED: 05/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/859,706

Applicant(s)

CHAFFEE, ROBERT B.

Examiner

Lisa M. Saldano

Art Unit

3673

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on February 9, 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 5-34 and 36-41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-34 and 36-41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claims 29 and 36 are objected to because of the following informalities:

Regarding claim 29, line 2, the applicant recites limitations directed to “the recess.”

However, claim language from which the claim depends does not recite a recess.

Regarding claim 36, line 1, the applicant recites limitations directed to “the recess.”

However, claim language from which the claim depends does not recite a recess. This claim language does not allow one to find prior art references that read on the claim.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-3, 32, 34 and 37 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, lines 4-5, the applicant recites limitations directed to “...the pump occupying a volume that would normally be occupied by the bladder and being external to the

Art Unit: 3673

bladder.” It is not clear what the applicant intend to claim by reciting “a volume that would normally be occupied by the bladder.” Please clarify. For purposes of examination, that phrase has been interpreted to mean that the pump occupies a volume bounded by portions of the bladder.

Regarding claim 2, line 2, the applicant recites limitations directed to “...a majority of the fluid controller is positioned within the bladder.” This claim depends from claim 1, which recites “...the pump...being external to the bladder.” This language appears to contradict the invention’s structure recited in base claim 1, which claims that the pump, which the fluid controller is comprised of, is external to the bladder. It is not clear how the fluid controller can be external to the bladder *and* be within the bladder as well. The definition of the word “within” relied upon for claim analysis, as defined by Merriam-Webster’s Collegiate Dictionary 10th Edition, is (1) in or into the interior; inside. Please clarify.

Regarding claim 3, line 2, the applicant recites limitations directed to “...all of the fluid controller positioned within the bladder.” This claim depends from claim 1, which recites “...the pump...being external to the bladder.” This language appears to contradict the invention’s structure recited in base claim 1, which claims that the pump, which the fluid controller is comprised of, is external to the bladder. It is not clear how the fluid controller can be external to the bladder *and* be within the bladder as well. The definition of the word “within” relied upon for claim analysis, as defined by Merriam-Webster’s Collegiate Dictionary 10th Edition, is (1) in or into the interior; inside. Please clarify.

Regarding claim 32, line 2, the applicant recites limitations wherein “...the fluid controller is constructed and arranged such that substantially all of the fluid controller is

Art Unit: 3673

positioned within the bladder.” This claim depends from claim 30, which claims that “...a fluid controller comprising a pump...the pump is located only partly within the bladder.” It is not clear how substantially all of the fluid controller can be positioned within the bladder because the base claims requires the fluid controller to be located only partly within the bladder. Please clarify.

This contradiction does not allow one to find prior art references that read on the claim.

Regarding claim 34, lines 2-3, the applicant recites limitations wherein “...the pump is at least partially positioned within the bladder.” This claim depends from claim 1, which recites “...the pump...being external to the bladder.” This language appears to contradict the invention’s structure recited in base claim 1, which claims that the pump, which the fluid controller is comprised of, is external to the bladder. It is not clear how the pump can be external to the bladder *and* be partially within the bladder as well. The definition of the word “within” relied upon for claim analysis, as defined by Merriam-Webster’s Collegiate Dictionary 10th Edition, is (1) in or into the interior; inside. Please clarify. This contradiction does not allow one to find prior art references that read on the claim.

Regarding claim 37, lines 1-2, the applicant recites limitations wherein “...the pump is at least partially positioned within a recess in the wall of the bladder.” This claim depends from claim 1, which recites “...the pump...being external to the bladder.” This language appears to contradict the invention’s structure recited in base claim 1, which claims that the pump, which the fluid controller is comprised of, is external to the bladder. It is not clear how the pump can be external to the bladder *and* be partially within the bladder as well. The definition of the word “within” relied upon for claim analysis, as defined by Merriam-Webster’s Collegiate Dictionary

Art Unit: 3673

10th Edition, is (1) in or into the interior; inside. Please clarify. This contradiction does not allow one to find prior art references that read on the claim

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

5. Claims 30, 31 and 33 are rejected under 35 U.S.C. 102(e) as being anticipated by Chung (6,332,760).

Regarding claim 30 and 31, Chung discloses an inflatable system comprising an impermeable bladder 26 and fluid controller with a pump 20 in communication with the bladder.

Art Unit: 3673

Chung discloses the inflatable system wherein the pump 20 is electrically powered and a majority of the controller is positioned in the bladder (see Figs. 3A, 3B). Chung discloses a first locking mechanism at the perimeter of socket 24. Chung further discloses an adjustment device near 204 on the top portion of 20 wherein a second locking mechanism located along the lower perimeter of pump 20 mates with the locking mechanism of socket 24. This configuration fixes the controller to the bladder. Furthermore, Chung's system comprises a recess to accommodate at least a portion of the pump.

Regarding claim 33, Chung discloses a pump 20 within a housing wherein the housing includes a flange that connects to the bladder (see Fig 2).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-3, 5, 14, 16, 17, 29 and 38-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saputo et al (6,287,095) in view of Sexton (5,068,933).

Regarding claims 1-3, Saputo et al disclose an internal air pump for inflatables comprising an inflatable bladder 102 and a fluid controller or internal air pump 100, whereby the pump occupies a volume bounded by portions of the bladder (see Figs. 1&5).

Regarding claims 5, 38 and 39, Saputo et al disclose that outer shell layer 104, roof layer 106 and floor layer 108 surround the air pump 100. These shell layers comprise a housing. Saputo et al also disclose that the roof layer 106 and the floor layer 108 can be separate pieces of PVC sealed by known sealing techniques. In this case the air pump 100 with its separate roof layer and/or floor layer are positioned within the inflatable device (see column 5, lines 28-45).

Regarding claim 40, Saputo discloses the inventions as described above such that the air pump 100 with its separate roof layer and/or floor layer are positioned within the inflatable device, making it externally accessible (see Fig.2).

Regarding claim 29, Saputo et al disclose the invention described above wherein the PVC-housed air pump 100 is positioned within the inflatable device wherein the space within the inflatable device that receives the air pump forms a recess. The office's interpretation of a recess is provided in light of the definition of a recess given by the Merriam-Webster's Collegiate Dictionary, 10th edition, wherein a recess is defined as "*a hidden, secret or secluded place*."

However, Saputo et al fail to disclose that the internal air pump may be an electrically powered pump. Saputo et al also fail to disclose an adjustment device.

Sexton discloses an air comfort pillow comprising an inflatable bladder 11 and an electrically powered mechanical air compressor 23 (see column 2, lines 24-34 and Fig.1). The air compressor 23 is located in a housing 21 located within case 37.

Regarding claims 14, 16 and 17, Sexton discloses an adjustment device 53 with a switch 57 for energizing pump motor 31 and a switch or button 59 that operates, opens and closes, valve 61.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Saputo et al to incorporate a an electrically powered air compressor, as suggested by Sexton, because an electrically powered pump performs the same function of inflating the two inflatable devices, by does so with little physical exertion on the part of the user. This also allows the user to inflate the device in a quicker fashion.

Furthermore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Saputo et al with an electrically operated pump and an adjustment device, as taught by Sexton, because the adjustment device provides for user control of the electrical motor, thereby enabling the user to actually operate the device.

8. Claim 6-10, 19 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saputo et al as modified by Sexton as applied to claim 5 above, in further view of Graf (5,746,873).

Saputo et al and Sexton disclose the inventions as described above wherein Saputo et al disclose an embodiment wherein the pump is at least partially covered by shell layers and positioned within the inflatable device. Specifically, Saputo et al disclose that the roof layer for the shell 106 can be a separate part from inflatable device, wherein the floor layer 108 can be a portion of the inflatable device 102 (again see column 5, lines 28-46).

However, Saputo et al and Sexton fail to explicitly disclose a housing that comprises a flange.

Regarding claim 6-9, Graf discloses an air mattress 1 with a pump part 2 therein whereby the pump part is bounded by an inflatable bladder and the boundary is defined by wall 4 which

Art Unit: 3673

consists of top and bottom edges 4a which are bent to form flanges then impermeably welded to covering skins 1 of the inflatable bladder (see Fig.1). Graf disclose that it is desirable to separate the pump part of an air mattress from the part to be inflated, such as the inflatable bladder (see column 1, lines 5-37).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Saputo et al to incorporate the wall and flange separations, as disclosed by Graf, because both Saputo et al and Graf disclose invention embodiments wherein the pump portion is separated from the inflatable bladder, but located within the boundaries of the inflatable bladder. The flanges of Graf help further define the area of the inflatable bladder portion of the air mattress that receives the separately housed and outer-shelled air pump disclosed by Saputo et al.

Regarding claims 10, 19 and 41, it would have been obvious to one of ordinary skill in the art at the time of the invention to develop an inflatable bladder with separating flange as taught by Graf with a separately housed air pump to be placed within the inflatable bladder, as suggested by Saputo et al, so that both parts operate more efficiently. Furthermore, separation of the pump from the inflatable bladder provides the user with easier access to the pump in case of mechanical failure.

9. Claims 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Walker (5,170,522) in view of Nagashima (JP-05137809-A).

Regarding claim 20, Walker discloses an air adjustable bed 20, which is an inflatable system, comprising a substantially fluid impermeable bladder or air mattress 21 and a fluid

Art Unit: 3673

controller comprising an air pump 23 in fluid communication with the air mattress through a third solenoid valve (see column 4, lines 15-26). Walker further discloses an adjustment device or control 26 that has three switches 26A, 26B and 26C connected to three different valves, wherein the switches are adapted to mechanically actuate the three valves. Specifically, switch 26C opens the third solenoid valve so that air pressure moves into the chamber of the air mattress 221.

Regarding claim 21, Walker discloses that the air pump 23, which has a motor, is attached to a source of power. Walker discloses that switch 26A, also located on remote control 26, is used to control the operation of the pump's electric motor attached to the power source. Figs.1-4 illustrate that three switches 26A, 26B and 26C are located on a top portion of the remote control device.

However, Walker fails to disclose that the pump and adjustment device have locking mechanisms adapted to mate to one another.

Nagashima discloses a remote control device for a portable fire pump comprising a remote control body A with switches, wherein the remote control body A can be mated to a pump body B through locking mechanisms 4 (see abstract and Fig.1). Nagashima's invention discloses analogous concepts to the air mattress in that both remote control devices for both inventions are used to control fluid communication through a substantially fluid impermeable bladder, specifically a hose.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Walker by providing mating locking mechanisms to releasably secure the remote control to the airbed, particularly the pump portion as taught by Nagashima, because

Art Unit: 3673

remote controls can often be misplaced. Releasably attaching an adjustment device to the object that the adjustment device controls allows a user to quickly and easily locate the adjustment device when necessary.

10. Claims 22-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Walker in view of Nagashima, as applied to claim 20 above, in further view of Saputo et al (6,287,095).

Walker and Nagashima disclose the inventions as described above.

However, neither Walker nor Nagashima disclose the positioning of a fluid pump at least partly within a bladder.

Regarding claims 22-24, Saputo et al disclose an internal air pump for inflatables comprising an inflatable bladder 102 and a fluid controller or internal air pump 100, whereby the pump occupies a volume bounded by portions of the bladder (see Figs.1&5). Saputo et al disclose that outer shell layer 104, roof layer 106 and floor layer 108 surround the air pump 100. These shell layers comprise a housing. Saputo et al also disclose that the roof layer 106 and the floor layer 108 can be separate pieces of PVC sealed by known sealing techniques. In this case the air pump 100 with its separate roof layer and/or floor layer are positioned within the inflatable device (see column 5, lines 28-45).

Regarding claim 25, Saputo et al disclose the invention described above wherein the PVC-housed air pump 100 is positioned within the inflatable device wherein the space within the inflatable device that receives the air pump forms a recess. The office's interpretation of a recess is provided in light of the definition of a recess given by the Merriam-Webster's

Art Unit: 3673

Collegiate Dictionary, 10th edition, wherein a recess is defined as “*a hidden, secret or secluded place*.”

Regarding claim 26, Saputo et al disclose that outer shell layer 104, roof layer 106 and floor layer 108 surround the air pump 100. These shell layers comprise a housing. Saputo et al also disclose that the roof layer 106 and the floor layer 108 can be separate pieces of PVC sealed by known sealing techniques. In this case the air pump 100 with its separate roof layer and/or floor layer are positioned within the inflatable device (see column 5, lines 28-45).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the air pump of Walker by incorporating it to be positioned within the inflatable device, as taught by Saputo et al, because doing so makes the invention more condensed and compact, as illustrated by Saputo et al. The Walker invention modified in this manner would still function in the same manner as long as care is taken to properly distribute air pressure to the air mattress 21 and lift bags 44,46 of the invention.

11. Claims 27 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Walker (5,170,522) in view of Wolfe (5,598,593).

Regarding claims 27 and 28, Walker discloses an air adjustable bed 20, which is an inflatable system, comprising a substantially fluid impermeable bladder or air mattress 21 and a fluid controller comprising an air pump 23 in fluid communication with the air mattress through a third solenoid valve (see column 4, lines 15-26). Walker further discloses an adjustment device or control 26 that has three switches 26A, 26B and 26C connected to three different valves, wherein the switches are adapted to mechanically actuate the three valves. Specifically, switch

Art Unit: 3673

26C opens the third solenoid valve so that air pressure moves into the chamber of the air mattress 221. Walker discloses that the air pump 23, which has an electrically powered motor, is attached to a source of power. Walker discloses that switch 26A, also located on remote control 26, is used to control the operation of the pump's electric motor attached to the power source.

Walker also discloses a tube assembly 27 that accommodates a pressure relief valve. The valve is located at an opposite end of the air mattress from where the air pump 23 is located. The pressure relief valve allows air to exhaust from the air mattress through the tube assembly.

However, Walker fails to disclose a self-sealing valve.

Wolfe discloses an inflatable airbed with an inflatable lower chamber and an inflatable upper chamber overlying the lower chamber. Each chamber has at least one valve for inflating and deflating the chamber. Wolfe discloses various valves for the airbed, such as quick release valves (16,24) for fast inflation and/or deflation and standard safety valves (17,25) for inflation. However, Wolfe discloses that the valves (17,25) are preferably self-sealing valves (see column 5, lines 30-38).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Walker to include self-sealing valves, as described by Wolfe, because they offer more a more controlled environment for adjusting the inflation of the inflatable bladders. Furthermore, Walker discloses the use of pressure relief valves to further control air pressure within the inflatable device.

Allowable Subject Matter

Art Unit: 3673

12. Claims 11-13, 15 and 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

13. Applicant's arguments with respect to claims 1-3, 5-26, 29-34 and 36-41 have been considered but are moot in view of the new ground(s) of rejection.

However, the examiner wishes to respond to the argument addressed in the section titled "Preliminary Matters" written on page 8 of the amendment filed on February 9, 2004. The applicant argues that the examiner's relied upon definition of "recess" is inappropriate in light of the applicant's desire to act as his own lexicographer. Examiner requests that the applicant refer to MPEP Sections 2106 and 2111.01 that address definitions for terms in claims and plain meaning for terms in claims. The MPEP clearly states "where an explicit definition is provided by the applicant for a term, that definition will control interpretation of the term as it is used in the claim." However, the MPEP also states that the words of a claim must be given their "plain meaning" unless they are defined in the specification. The applicant offered the elected definition of the term recess as "an indentation" in the arguments presented in the amendment filed in February 9, 2004. This definition of a recess was not provided in the original specification. Therefore, the claims have been interpreted as broadly as their terms reasonably allow.

Conclusion

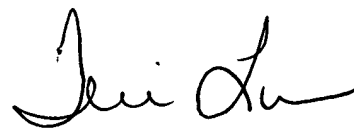
14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Wu (6,543,073) discloses an inflation seat assembly for an inflatable article.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lisa M. Saldano whose telephone number is 703-605-1167. The examiner can normally be reached on Monday-Friday, 8:30am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Heather C. Shackelford can be reached on 703-308-2978. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

lms



TERI PHAM LUU
PRIMARY EXAMINER